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A new Bufo and associated Amphibia from southern Tanzania

by

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SYNOPSIS

Description of *Bufo reesi* sp. n. from the Kihanzi-Kilombero floodplain. Thirty-five other species in the Rees collection are listed and discussed.

In 1962, Mr Allen Rees started collecting amphibians in the Mahenge district of southern Tanzania. The material was sent to me for identification, but changes in political climate subsequently led to several difficulties, especially in communication. The material is now housed in the British Museum.

Mr Rees's collection adds seventeen species to Loveridge's papers dealing with that area (1942, 1951 & 1955). This paper lists his material and describes a new *Bufo* in the collection.

Bufo reesi sp. n. Fig. 1

Types. Holotype: an adult male in the British Museum (1520) collected at Merera, TANZANIA, 36°02'E × 8°33'S, by Allen Rees. Paratypes: 2 adult females (1523, 1524) from Mbega, *c.* 10 km SE of Merera, and an adult female and a juvenile (1521, 1522) from the confluence of the Kihanzi and Kilombero rivers, *c.* 37 km NW of Merera. These localities are all on the Kihanzi–Kilombero flood plain, at an altitude between 200 and 500 m.

Diagnosis. Extensively webbed and with a large tarsal fold and large, almost circular tympanum, resembling *B. fuliginatus* de Witte (of which *B. funereus upembae* Schmidt & Inger is a synonym, Laurent 1961) particularly in its spinosity, well-developed webbing and possession of a tarsal fold, but differing therefrom in the full webbing, more extensive tarsal fold, larger tympanum (horizontal diameter $\frac{2}{3}$ that of eye) and presence of vocal sac.

Description of holotype. Snout acuminate (slightly distorted in preservation). Tympanum very distinct, almost circular, horizontal diameter $\frac{2}{3}$ that of eye. Parotid glands flattened and not distinctly demarcated, length less than three times width, greater than parotid–nostril distance. Parotid gland and tympanum very close (less than 1 mm) to eye. Canthus rostralis straight.

Toes with a margin of web extending to slightly beyond distal tubercles, leaving no phalanges free. Subarticular tubercles single. Outer metatarsal tubercle about $\frac{2}{3}$ length of inner and more conical. Prominent tarsal fold present along full length of tarsus.

Entire skin granular excepting on fingers and toes, spinous on dorsal surface. Spinous warts conical, backward-pointing, mainly homogeneous but some larger and surrounded by a rosette of smaller conical warts.

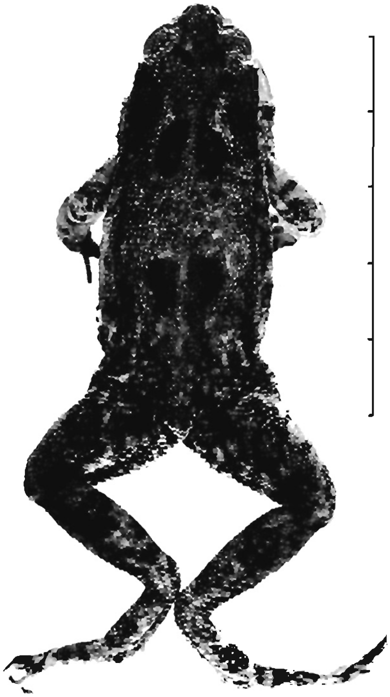

Fig. 1. *Bufo reesi* sp. n. Dorsal aspect of holotype × 1.

Slit to vocal sac opens beneath right side of tongue apparatus.

Colour in alcohol. Above: warts and parotid glands a golden brown, rest of skin light brown except for darker inter-ocular, scapular and sacral markings. A dark lateral band runs below canthus and continues below parotids; no dorsal markings anterior to the inter-ocular bars. Belly a dark orange, lighter and marbled in pectoral region.

Dimensions: snout to tip of urostyle 56,6 mm, head width at tympanum 18,2 mm, head length to jaw articulation 13,4 mm, horizontal diameter of tympanum 4,3 mm, length of tibia (folded) 24,6 mm, length of third finger 9,6 mm, length of foot (including inner metatarsal tubercle) 31,6 mm.

Paratypes. These specimens agree well with the holotype, but a darker background coloration tends to obscure the markings. One specimen has scattered light patches. Distance from snout to urostyle: 60,3 mm, 57,7 mm, 55,0 mm, 31,5 mm.

Habitat. Letters from Mr Rees state that the holotype 'was taken in the open flood plain of the Kihanzi (a tributary of the Kilombero) in May', and the Mbega paratypes taken on 'a raised shell hill actually in the flood plain a few miles south of Merera'. The Kilombero River 'floods extensively from April to June normally and covers a wide area of grassland—*Pennisetum* spp. with *Neyraudia arundinacea* and some papyrus'.

Associated Amphibia. The following were collected at localities ranging from the Kilombero plain (+200 m) to the Mahenge area (—1 520 m).

Xenopus muelleri (Peters). Boma Ulanga; Gunguli; Kivukoni.
Bufo regularis Reuss. Kivukoni; Mahenge; Mtilangondo.
Bufo pusillus Mertens. Luwegu; Mahenge.
Bufo anotis Boulenger. Lukandi; Mahenge.
Phrynomerus bifasciatus (Smith). Ifakara; Mahenge.
Spelaeophryne methneri Ahl. Mahenge.
Breviceps mossambicus Peters. Mahenge.
Pyxicephalus adspersus Tschudi. Kivukoni; Mahenge.
Rana a. angolensis Bocage. Kivukoni; Mahenge.
Hylarana galamensis bravana (Peters). Kihanzi/Kilombero.
Hildebrandtia o. ornata (Peters). Kivukoni.
Ptychadena oxyrhynchus (Smith). Mkomangasha.
Ptychadena superciliaris (Günther). Boma Ulanga; Gawiro; Ifakara; Kugota; Mahenge; Maji ya Moto; Shughuli.
Ptychadena m. mascareniensis (Duméril & Bibron). Boma Ulanga; Kivukoni; Mahenge; Mbega; Kugota.
Ptychadena u. upembae (Schmidt & Inger). Mbega.
Ptychadena taenioscelis Laurent. Ikulia; Mkomangasha.
Phrynobatrachus natalensis (Smith). Mahenge; Msolwa River; Ruaha River.
Phrynobatrachus acridoides (Cope). Boma Ulanga; Ikulia; Kisanga; Luwegu; Mahenge; Mbega; Ruaha River; Uga.
Phrynobatrachus ukingensis mababiensis FitzSimons. Maji ya Moto; Riva Lumango.
Arthroleptis stenodactylus Pfeffer. Boma Ulanga; Kitikale; Liage; Mahenge; Mwaya; Riva.
Arthroleptis x. xenodactyloides Hewitt. Mahenge.
Hemisus marmoratum (Peters). Boma Ulanga: Ilonga; Kivukoni; Luhombero River; Mlahi; Mahenge.
Chiromantis xerampelina Peters. Boma Ulanga; Kivukoni; Luhombero–Kilombero confluence; Mahenge.
Leptopelis flavomaculatus (Günther). Mahenge; Msolwa River.
Kassina senegalensis (Duméril & Bibron). Mahenge; Mbalu River; Kivukoni.
Afrixalus p. pygmaeus (Ahl.). Mahenge; Ruaha River; Sonjo.
Afrixalus f. fornasinii (Bianconi). Kugota; Mahenge.
Afrixalus wittei (Laurent). Mbega.
Hyperolius puncticulatus (Pfeffer). Boma Ulanga; Mahenge.
Hyperolius mitchelli Loveridge. Mahenge.
Hyperolius tuberilinguis Smith. Ifakara; Kisanga; Mahenge.
Hyperolius n. nasutus Günther. Ilonga; Kipera; Luheya; Luhombero River; Mahenge; Msita.
Hyperolius marginatus Peters. Ilonga; Luwegu.
Hyperolius pictus Ahl. Kihanzi/Kilombero.
Hyperolius sp. Boma Ulanga; Mbega. Muscular body wall marked on either side with bold alternating black and white bands showing clearly through skin in preserved specimens. In life, 'a brilliant yellow with black markings. The black markings appear to show through the skin'. Available specimens (5) not sufficiently well preserved to be type material.

Notes. Tanzanian material of *Bufo anotis* differs from Rhodesian material in the reduced webbing (two phalanges of third toe free in Tanzanian, one free in Rhodesian), relatively broader head (head width/distance between tip of snout and urostyle 0,36–0,39 in Tanzanian, 0,35–0,36 in Rhodesian), and better defined dorsal markings in Tanzanian material. But until intervening areas are better explored it seems valueless to recognize subspecies.

In the Mahenge series of *Rana a. angolensis*, a dark band commencing above the arm and continuing to the anterio-ventral face of the leg is very pronounced in one specimen, and less pronounced to absent as a continuous band in the remaining five. This band is strongly reminiscent of the markings of *R. wittei* Angel, an upland form occurring to the north.

'*Rana o. oxyrhynchus*' of Loveridge from this area (1942, 1951 & 1955) are referable to *Ptychadena superciliaris*. Loveridge's '*Rana m. mascareniensis*' (1955, M.C.Z. 27918) also belongs to this species. But his 1951 '*mascareniensis*' (M.C.Z. 26642) from Liwale is *taenioscelis*. His '*Rana ansorgei*' from Tunduru (1955, M.C.Z. 27921–2) is *Ptychadena mossambica* (Peters).

The single specimen of *Ptychadena u. upembae* has been compared with a paratype, which it matches except that the markings on the lower jaw are interrupted and the foot is relatively short (0,53 the length of the body). In both these features it approaches *mossambica* Peters. It was noted in Poynton 1964 that this species shows a cline in the tibia length/body length ratio from east to west across the continent. The present specimen conforms to this cline, the ratio being 0,56, which falls within the range of Malawi material. A dark ventral blotch is present, as described in Malawi material. The specimen listed as *ansorgei* by Loveridge (1955) from Kilwa (M.C.Z. 27920) is damaged, and would pass for *mossambica* but for its relatively long feet, being more than twice the length of the body. It is tentatively referred to *upembae.*

The record of *Arthroleptis x. xenodactyloides* is new for Tanzania, but its occurrence at Mahenge is not surprising in view of the presence there of *Bufo anotis* and *Leptopelis flavomaculatus*, once also thought to be 'typical' eastern Rhodesian species. The maximum size in this series of three specimens is 17,0 mm.

ACKNOWLEDGEMENTS

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GAZETTEER

Boma Ulanga 8°10′S × 36°57′E, *c*. 260 m. Gawiro 8°34′S × 35°50′E, *c*. 500 m. Gunguli 8°35′S × 37°15′E, *c*. 150 m. Ifakara 8°09′S × 36°41′E, *c*. 230 m. Ikulia 8°45′S × 37°05′E, *c*. 400 m. Ilonga 9°04′S × 36°51′E, *c*. 400 m. Kihanzi-Kilombero confluence 8°25′S × 36°22′E, *c*. 240 m. Kipera 8°25′S × 36°25′E, *c*. 270 m. Kitikale 7°32′S × 37°02′E, *c*. 300 m. Kisanga 8°25′S × 36°25′E, *c*. 270 m. Kivukoni 8°11′S × 36°42′E, *c*. 260 m. Kugota 7°51′S × 38°25′E, *c*. 60 m. Liage 8°18′S × 37°05′E, *c*. 200 m. Luheya 9°00′S × 37°00′E, *c*. 400 m. Luhombero-Kilombero confluence 8°25′S × 37°12′E, *c*. 190 m. Lukandi 8°48′S × 36°50′E, *c*. 700 m. Luwegu River 8°45′S × 37°23′E, *c*. 200 m. Mahenge 8°41′S × 36°43′E, *c*. 1 000 m. Maji ya Moto 7°40′S × 37°30′E, *c*. 300 m. Mbalu River 8°40′S × 36°55′E, *c*. 500 m. Mbega 8°38′S × 36°08′E, *c*. 270 m. Merera 8°33′S × 36°02′E, *c*. 270 m. Mkomangasha 8°58′S × 37°24′E, *c*. 350 m. Mlahi 8°30′S × 37°12′E, *c*. 180 m. Msita 8°34′S × 35°55′E, *c*. 500 m. Msolwa River 8°02′S × 37°00′E, *c*. 260 m. Mtilangondo 8°25′S × 37°07′E, *c*. 190 m. Mwaya 8°55′S × 36°51′E, *c*. 400 m. Riva Lumango 7°32′S × 37°02′E, *c*. 300 m. Ruaha River 7°56′S × 37°52′E, *c*. 80 m. Shuguli 8°32′S × 37°23′E, *c*. 150 m. Sonjo 7°50′S × 36°52′E, *c*. 500 m. Uga 8°33′S × 35°50′E, *c*. 500 m.